

IN THE CLAIMS:

Kindly amend claims 1, 5 to 7, 9, 15, 17 to 19 and cancel claims 4, 11 and 16. The amendments are marked-up. This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A motor system comprising:
 - a stator, the stator having at least a first and a second multiphase winding, the first and second windings being electrically isolated from one another and non-interlaced with one another, the first and second windings occupy non-overlapping sector segments of the stator;
 - a rotor mounted for movement relative to the stator about an axis, the rotor having at least one permanent magnet mounted thereon;
 - a drive circuit including a power source and a commutation circuit, the drive circuit electrically connected to at least the first winding to, in use, provide electricity to the first winding to rotationally drive the rotor about the axis; and
 - a rotor position recognition circuit connected to the second winding, the rotor position recognition circuit adapted to, in use, determine rotor position based on an electricity induced in the second winding when the rotor passes the second winding, the rotor position recognition circuit connected to the drive circuit for providing feedback information to the drive circuit regarding said determined rotor position.

2. (original) The motor system of claim 1 wherein the first and second windings have at least three phases.
3. (original) The motor system of claim 1 wherein the first and second windings are spaced apart from one another.
4. (cancelled)
5. (currently amended) An electric motor system comprising:
 - a rotor mounted for rotation about an axis, the rotor having at least one permanent magnet mounted thereon;
 - a ~~generally cylindrical~~ stator, the stator having at least a first sector and a second sector relative to the rotor rotation axis, the first and the second sectors being distinct from one another, the stator having at least ~~two~~ a first and a second multiphase winding sets, wherein the ~~at least two first~~ winding sets are ~~is~~ confined to a ~~different one of the~~ first sector and the second winding set is confined to the second sector;
 - a motor drive connected to a power source and to the first ~~one of the~~ windings sets to thereby selectively energized the first winding set to electrically drive rotation of the rotor; and
 - a rotor position decoder connected to the ~~other~~ second winding set to thereby acquire signals from the ~~other~~ second winding set for providing rotor position information to the motor drive.
6. (currently amended) The motor system of claim 5 wherein said ~~other~~ second winding set is not connected to the motor drive.

7. (currently amended) A motor system comprising:

a permanent magnet rotor;

stator having at least a first multiphase winding set and a second multiphase winding set, the first and second winding sets substantially electrically and magnetically isolated from one another, the first set positioned in the stator, ~~such that, in use, magnetism induced, in use, by electricity flowing therethrough through the first set causes~~ the rotor to rotate, the second ~~set~~ positioned in the stator, ~~such that, in use, the rotating rotor, in use, induces~~ electricity to flow ~~therethrough~~ through the second set, the first and second winding sets being non-overlapping relative to one another in the stator;

a first control system adapted to provide electricity to the first winding set to continuously drive rotation of the rotor; and

a second control system adapted to receive electricity induced in the second windings and provide rotor position information to the first control system.

8. (original) The motor system of claim 7 further comprising:

a third control system adapted to provide electricity to the second winding set to continuously drive rotation of the rotor;

a fourth control system adapted to receive electricity induced in the first windings and provide rotor position information to the third control system.

9. (currently amended) A motor system comprising:

a permanent magnet rotor;

stator having at least a first multiphase winding set and a second multiphase winding set, the first and second winding sets substantially electrically and magnetically isolated from one another, the first and the second winding sets occupying non-overlapping sector segments of the stator;

a motor drive connected to a power source and the first winding set to thereby selectively energized the first winding set to electrically drive rotation of the rotor; and

a rotor position decoder connected between the second winding set and the motor drive to thereby acquire signals from the second winding set for providing rotor position information to the motor drive.

10. (original) The motor system of claim 9 wherein the first and second windings are disposed in distinct sectors of the stator.
11. (cancelled)
12. (original) The motor system of claim 9 wherein the first and second windings sets are arranged serially with one another relative to a permanent magnet rotation path of the rotor.
13. (original) The motor system of claim 9 wherein each winding set is a 3-phase winding set.

14. (original) The motor system of claim 9 further comprising a commutation apparatus connected to the first winding set and a rotor position sensing apparatus connected to the second winding set, wherein the rotor position sensing apparatus is connected to commutation apparatus for providing rotor position feedback information to the commutation apparatus.

15. (currently amended) A brushless motor system comprising:

at least a first magnetic circuit including at least a first permanent rotor magnet ~~rotor~~-mounted for rotation on a shaft, a first stator portion adjacent the first rotor magnet, and at least one multiphase winding set associated with the first stator portion;

at least a second magnetic circuit including at least a second permanent rotor magnet ~~rotor~~-mounted for rotation on the shaft, a second stator portion adjacent the second rotor magnet, and at least one multiphase winding set associated with the second stator portion, the second stator portion winding set being electrically isolated from the first stator portion winding set, the second magnetic circuit being isolated from the first magnetic circuit, the first and the second winding sets occupying non-overlapping sector segments of the stator;

a commutation apparatus adapted to, in use, provide commutation signals to the first stator portion winding set to cause the first stator portion winding set to drive rotation of the first rotor magnet; and

a rotor position sensing apparatus adapted to, in use, receive input from the second stator portion winding

set and provide output rotor position information to the commutation apparatus.

16. (cancelled)

17. (currently amended) The motor system of claim ~~15~~¹⁶ wherein the first and second stators portions are ~~portions~~ part of a ~~the~~ same stator body.

18. (currently amended) The motor system of claim ~~16~~¹⁵ wherein the first and second stators portions are distinct sectors of ~~the~~ a same stator body.

19. (currently amended) The motor system of claim 18 wherein only said ~~two~~ first and second magnetic circuits and said ~~two~~ first and second multiphase winding sets are provided, and wherein the first and second stators portions each occupy a different half of the stator body.

20. - 23. (withdrawn)